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Art Unit: 2633

Rejections under 35 U.S.C. §102 and 35 U.S.C. §103

Claims 1-5, 7-11, 14-22, 24-28 and 31-34 were rejected under 35 U.S.C. §102(b) as being anticipated by McGuire. Claims 6, 12, 13, 23, 29, 30 and 35-52 were rejected under 35 U.S.C. §103 as being unpatentable over McGuire.

McGuire:

The portion of McGuire relied on by the Examiner is the description of prior art in Figure

1. In Figure 1, McGuire describes an optical cross-connect at column 1, lines 46-67 and column 2, lines 1-18 as:

"...including three input fibers 1, 2,3 connected at the node to output fibers 4,5,6. Each of the fibers 1-3 carries four WDM channels, which are connected to the output fibers 4-6 by means of space switches X1-X4. In this example, space switches are 4x4 matrices which thus have four inputs a-d and four outputs e-h that are optically interconnectable and are controlled by applied electrical signals...

The four optical channels of each input fiber 1-3 are applied to an input of each of the space switches X1-X4 and each is separately selected by means of a respective tunable filter F1-F4... The fourth input of each space switch X1-X4 is connected to tunable optical transmitter ... Thus, by applying control signals to the space switches X1-X4 traffic in WDM channels of input fibers 1-3 can be switched between output fibres 4-6 and signal trains can be added to and dropped out of the optical network by means of transmitters and receivers 7,8..."

McGuire fails to teach every limitation of the claimed invention

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Applicants claim 1 recites "...A network device comprising ... optical switching logic coupled between a plurality of input optical interfaces and a plurality of output optical interfaces, for forwarding an optical data stream to one of the optical interfaces for output on at least one optical fiber; and *routing logic operably coupled to the switching logic to selectively receive the optical data stream from the optical switching logic and retrieve routing information from the optical data stream, wherein the routing information is used to dynamically control the forwarding of the optical data stream through the optical switch logic to one of the output optical interfaces on the at least one optical fiber...*"

Thus, Applicants' claim 1 is directed to a network device which includes both optical switching logic *and* routing logic, as is now clear from the claims, the routing logic can be used to dynamically modify the flow of optical data streams through the switch. McGuire neither describes nor suggests such a structure.

The Examiner states at page 3 of the office action that McGuire discloses "routing logic (not explicitly shown in Figure 1, but transmitters and photodetectors interface to it..."

Applicants note that the transmitters and photodetectors respectively transmit and receive signals, but do not play a role in routing signals from an input of the switch to an output of the switch.

The Examiner also states that "McGuire discloses that the transmitters and photodetectors convert between electrical and optical signals and further discloses that electrical signals may be processed/routed in a layer of the system and may be transmitted to or from the optical layer as necessary (column 1, lines 10-67; column 2, lines 1-9)". Such a structure, which, as the Examiner states, offloads routing from the switch and forwards to another layer for processing, seems to directly contradict the elements of the claimed invention.

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The provision of the routing logic with the switching logic in the present invention is non trivial. The Examiner is referred to pages 5-6 of the specification:

"... The switching/routing logic 120 includes optical switching logic as well as traditional routing logic. For each individual incoming optical data stream received via the incoming optical interface(s) 110, the switching/routing logic 120 can be *dynamically* configured to either pass the incoming optical data stream through the outgoing fiber(s) via the outgoing optical interface(s) 130 or "drop" the incoming optical data stream from the optical communication path." Such an operation is not possible using the invention of McGuire.

Accordingly, for at least this reason, claim 1 is patentably distinct over McGuire, and the rejection should be withdrawn. Independent claims 18, 35 and 50 have been amended to more clearly highlight patentable elements of the invention, and, for reasons similar to those put forth with regard to Claim 1, claims 18, 35 and 50 are also patentable over McGuire.

Dependent claims 2-17, 19-34, 36-49 and 51-52 serve to add further patentable limitations to their base independent claims, and are allowable for at least the reasons put forth with regard to the independent claims.

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Applicants have made a diligent effort to place the claims in condition for allowance. However, should there remain unresolved issues that require adverse action, it is respectfully requested that the Examiner telephone Lindsay G. McGuinness, Applicants' Attorney at 978-264-6664 so that such issues may be resolved as expeditiously as possible.

For these reasons, and in view of the above amendments, this application is now considered to be in condition for allowance and such action is earnestly solicited.

Respectfully Submitted,

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Date

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